AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior listings of claims in the application:

1. (Currently amended) A ~~vaccine~~ composition comprising a mammalian prion protein and an antigen carrier or delivery vehicle, wherein: ~~adjuvant eliciting a humoral immune response~~

the mammalian prion protein is selected from the group consisting of bovine, deer, elk, and sheep;

the composition is suitable for mucosal administration; and

the composition elicits a humoral immune response that is predominantly associated with a mucosal IgA response and any concomitant immunoglobulin counterpart in other bodily fluids when introduced to a mammalian mucosal immune system.

2. (Cancel)

3. (Currently amended) The composition of claim [[2]] 1, wherein the prion protein comprises an amino acid sequence which is a member of the group consisting of ~~residues 90-144 of SEQ ID NO:1; residues 112-214 of SEQ ID NO:1;~~ residues 93-156 of one of SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4 or SEQ ID NO:8; and residues 123-225 of one of SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, or SEQ ID NO:8.

4. (Original) The composition of claim 3, wherein all amino acid residues are D-amino acids.

5-8. (Cancel)

9. (Original) The composition of claim 1, wherein the adjuvant is cholera toxin subunit B (CT-B), heat-labile enterotoxin (LT) or aluminum hydroxide.

10. (Original) The composition of claim 9, wherein the prion protein is covalently attached to the cholera toxin subunit B.

11. (Withdrawn) A method of preventing or treating a prion disease, comprising mucosal administration of the vaccine of claim 1 to a mammalian subject in need thereof.

12. (Withdrawn – currently amended) The method of claim 11, wherein the mammalian subject is a member of the group consisting of ~~human,~~ bovine, deer, elk, and sheep.

13. (Withdrawn) The method of claim 11, wherein the mucosal administration is a member selected from the group consisting of oral, intragastric, intranasal, rectal and intraocular administration.

14. (Cancel)

15. (Withdrawn) The method of claim 11, wherein the subject is bovine and the prion disease is bovine spongiform encephalopathy.

16. (Withdrawn) The method of claim 11, wherein the subject is deer or elk and the prion disease is chronic wasting disease.

17. (Withdrawn) The method of claim 11, wherein the subject is sheep and the prion disease is scrapie.

18. (Withdrawn) The method of claim 11, further comprising repeating the mucosal administration at least once.

19. (Withdrawn) The method of claim 18, comprising repeating the mucosal administration within one month after the first administration.

20. (Currently amended) A ~~vaccine~~ composition comprising an attenuated *Salmonella typhii* bacterium transfected spp strain transformed with a vector capable of expressing a mammalian prion protein, wherein:

the mammalian prion protein is selected from the group consisting of bovine, deer, elk, and sheep;

wherein the composition is suitable for mucosal administration; and

the composition elicits a humoral immune response that is predominantly associated with an IgA response and any concomitant immunoglobulin counterpart in other bodily fluids when introduced to a mammalian mucosal immune system.

21. (Cancel)

22. (Currently amended) The composition of claim [[21]] 20, wherein the prion protein comprises an amino acid sequence which is a member of the group consisting of ~~residues 90-144 of SEQ ID NO:1, and~~ residues 93-156 of one of SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, and SEQ ID NO:8.

23. (Original) The composition of claim 22, wherein all amino acid residues are D-amino acids.

24-27. (Cancel)

28. (Original) The composition of claim 20, wherein the *Salmonella* spp strain is of a strain selected from *Salmonella typhimurium* LVR01, LVR03 and SL3261, *Salmonella enteritidis* LVR02, and *Salmonella typhi* CVD915.

29. (Withdrawn) A method of preventing or treating a prion disease, comprising mucosal administration of the vaccine of claim 20 to a mammalian subject in need thereof.

30. (Withdrawn – currently amended) The method of claim 29, wherein the mammalian subject is a member of the group consisting ~~human,~~ bovine, deer, elk, and sheep.

31. (Withdrawn) The method of claim 29, wherein the mucosal administration is a member selected from the group consisting of oral, intragastric, intranasal, rectal and intraocular administration.

32. (Cancel)

33. (Withdrawn) The method of claim 29, wherein the subject is bovine and the prion disease is bovine spongiform encephalopathy.

34. (Withdrawn) The method of claim 29, wherein the subject is deer or elk and the prion disease is chronic wasting disease.

35. (Withdrawn) The method of claim 29, wherein the subject is sheep and the prion disease is scrapie.

36. (Withdrawn) The method of claim 29, further comprising repeating the mucosal administration at least once.

37. (Withdrawn) The method of claim 36, comprising repeating the mucosal administration within one month after the first administration.

38. (Cancel)

39. (Cancel)

40. (Withdrawn) A method for preventing prion disease comprising administering a priming dose of the pharmaceutical composition of claim 38 by an intradermal, subcutaneous, intramuscular, or intravenous route, and subsequently administering a booster dose of the pharmaceutical composition by an oral, nasal, intragastric, rectal, or intraocular route.

41-44. (Cancel)

45. (Currently amended) The composition of claim [[21]] 20, wherein the prion protein comprises an amino acid sequence which is a member of the group consisting of residues ~~112-214 of SEQ ID NO:1, and~~ residues 123-225 of one of SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, and SEQ ID NO:8.

46. (Original) The composition of claim 45, wherein all amino acid residues are D-amino acids.

47-50. (Cancel)